DATE: 04/23/2001

```
PATENT APPLICATION: US/09/826,115
                                                             TIME: 15:06:08
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                     Output Set: N:\CRF3\04232001\I826115.raw
      4 <110> APPLICANT: Chang, Gwong-Jen J
      6 <120> TITLE OF INVENTION: Nucleic Acid Vaccines for Prevention of
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      9 <130> FILE REFERENCE: 14114.0332U3
C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/826,115
C--> 11 <141> CURRENT FILING DATE: 2001-04-04
     11 <150> PRIOR APPLICATION NUMBER: pct/us99/12298
     12 <151> PRIOR FILING DATE: 1999-06-03
     14 <150> PRIOR APPLICATION NUMBER: 09/701,536
     15 <151> PRIOR FILING DATE: 2000-11-29
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     20 <160> NUMBER OF SEQ ID NOS: 31
     22 <170> SOFTWARE: FastSEQ for Windows Version 4.0
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     26 <212> TYPE: DNA
     27 <213> ORGANISM: Artificial Sequence
     29 <220> FEATURE:
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     34 <222> LOCATION: (25)...(48)
     36 <221> NAME/KEY: misc_feature
     37 <222> LOCATION: 1-48
     38 <223> OTHER INFORMATION: Amplimer 14DV389
     40 <400> SEQUENCE: 1
     41 cttggtacct ctagagccgc cgcc atg ggc aga aag caa aac aaa aga
     42
                                   Met Gly Arg Lys Gln Asn Lys Arg
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RAW SEQUENCE LISTING

DATE: 04/23/2001

TIME: 15:06:08 PATENT APPLICATION: US/09/826,115 Input Set : A:\Pto.amc Output Set: N:\CRF3\04232001\1826115.raw 68 <221> NAME/KEY: misc_feature 69 <222> LOCATION: 1-50 70 <223> OTHER INFORMATION: Amplimer c14DV2453 72 <400> SEQUENCE: 3 73 ttttcttttg cggccgctca aacttaagca tgcacattgg tcgctaagaa 75 <210> SEQ ID NO: 4 76 <211> LENGTH: 48 77 <212> TYPE: DNA 78 <213> ORGANISM: Artificial Sequence 80 <220> FEATURE: 81 <223> OTHER INFORMATION: Description of artificial sequence; note = 82 synthetic construct 84 <221> NAME/KEY: CDS 85 <222> LOCATION: (25)...(48) 87 <221> NAME/KEY: misc_feature 88 <222> LOCATION: (1)...(48) 89 <223> OTHER INFORMATION: Amplimer YFDV389 91 <400> SEQUENCE: 4 92 cttggtacct ctagageege egee atg egt tee eat gat gtt etg act 93 Met Arg Ser His Asp Val Leu Thr 94 5 97 <210> SEQ ID NO: 5 98 <211> LENGTH: 8 99 <212> TYPE: PRT 100 <213> ORGANISM: Artificial Sequence 102 <220> FEATURE: 103 <223> OTHER INFORMATION: Description of artificial sequence; note = synthetic construct 106 <400> SEQUENCE: 5 107 Met Arg Ser His Asp Val Leu Thr 110 <210> SEQ ID NO: 6 111 <211> LENGTH: 41 112 <212> TYPE: DNA 113 <213> ORGANISM: Artificial Sequence 115 <220> FEATURE: 116 <223> OTHER INFORMATION: Description of artificial sequence; note = synthetic construct 119 <221> NAME/KEY: misc_feature 120 <222> LOCATION: 1-41 121 <223> OTHER INFORMATION: Amplimer cYFDV2452 123 <400> SEQUENCE: 6 124 ttttcttttg cggccgctca cgccccaact cctagagaaa c 41 126 <210> SEQ ID NO: 7 127 <211> LENGTH: 51 128 <212> TYPE: DNA 129 <213> ORGANISM: Artificial Sequence 131 <220> FEATURE: 132 <223> OTHER INFORMATION: Description of artificial sequence; note =

RAW SEQUENCE LISTING

RAW SEQUENCE LISTINGPATENT APPLICATION: US/09/826,115

DATE: 04/23/2001

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Input Set : A:\Pto.amc

Output Set: N:\CRF3\04232001\I826115.raw

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139 <222> LOCATION: 1-51
140 <223> OTHER INFORMATION: Amplimer SLEDV410
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144
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148 <210> SEQ ID NO: 8
149 <211> LENGTH: 9
150 <212> TYPE: PRT
151 <213> ORGANISM: Artificial Sequence
153 <220> FEATURE:
154 <223> OTHER INFORMATION: Description of artificial sequence; note =
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163 <212> TYPE: DNA
164 <213> ORGANISM: Artificial Sequence
166 <220> FEATURE:
167 <223> OTHER INFORMATION: Description of artificial sequence; note =
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170 <221> NAME/KEY: misc_feature
171 <222> LOCATION: 1-38
172 <223> OTHER INFORMATION: Amplimer cSLEDV2449
174 <400> SEQUENCE: 9
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179 <212> TYPE: DNA
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191 <223> OTHER INFORMATION: pCDJE 2-7
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195 ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg
                                                                          120
196 cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc
                                                                          180
197 ttagggttag gegttttgeg etgettegeg atgtaeggge eagatataeg egttgaeatt
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RAW SEQUENCE LISTING DATE: 04/23/2001 PATENT APPLICATION: US/09/826,115 TIME: 15:06:08

Input Set : A:\Pto.amc
Output Set: N:\CRF3\04232001\I826115.raw

| 198 | gat | tatt | gac | tagt | tatta | aa ta | agta | atcaa | a tta | acgg | ggtc | att | agtt | cat | agcc | catata | 300 |
|---|---|------|-----|-------|-------|-------|------|-------|-------|------|------|-----|------|-------|------|--------|------|
| 199 | tgg | agtt | ccg | cgtta | acata | aa c | ttac | ggtaa | a at | ggcc | cgcc | tgg | ctga | ccg | ccca | acgacc | 360 |
| 200 | CCC | gccc | att | gacg | tcaat | ta a | tgac | gtate | g tt | ccca | tagt | aac | gcca | ata | ggga | ctttcc | 420 |
| 201 | attgacgtca atgggtggac tatttacggt aaactgccca cttggcagta catcaagtgt | | | | | | | | | | | | | 480 | | | |
| 202 | atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt | | | | | | | | | | | | | | 540 | | |
| 203 | atgcccagta catgacctta tgggactttc ctacttggca gtacatctac gtattagtca | | | | | | | | | | | | | 600 | | | |
| 204 | togotattac catggtgatg oggttttggc agtacatcaa tgggogtgga tagoggtttg | | | | | | | | | | | | | 660 | | | |
| 205 | act | cacg | ggg | attt | ccaa | gt c | tcca | cccc | a tt | gacg | tcaa | tgg | gagt | ttg ' | tttt | ggcacc | 720 |
| 206 | aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg | | | | | | | | | | | | | 780 | | | |
| | gtaggogtgt acggtgggag gtotatataa gcagagotot otggotaact agagaacoca | | | | | | | | | | | | | 840 | | | |
| 208 | ctgcttactg gcttatcgaa attaatacga ctcactatag ggagacccaa gcttggtacc | | | | | | | | | | | | | 900 | | | |
| 209 | | | | | | | | | | | | | | | 951 | | |
| 210 | | | | | | | | | | | | | | | | | |
| 211 1 5 10 213 ggc tca atc atg tgg ctc qcg agc ttg qca gtt qtc ata qct tgt qcg 99 | | | | | | | | | | | | | | | | | |
| 213 | ggc | tca | atc | atg | tgg | ctc | gcg | agc | ttg | gca | gtt | gtc | ata | gct | tgt | gcg | 999 |
| 214 | Gly | Ser | Ile | Met | Trp | Leu | Ala | Ser | Leu | Ala | Val | Val | Ile | Ala | Cys | Ala | |
| 215 | 15 20 25 | | | | | | | | | | | | | | | | |
| 217 | gga | gcc | atg | aag | ttg | tcg | aat | ttc | cag | ggg | aag | ctt | ttg | atg | acc | atc | 1047 |
| 218 | Gly | Ala | Met | Lys | Leu | Ser | Asn | Phe | Gln | Gly | Lys | Leu | Leu | Met | Thr | Ile | |
| 219 | | 30 | | | | | 35 | | | | | 40 | | | | | |
| 221 | aac | aac | acg | gac | att | gca | gac | gtt | atc | gtg | att | CCC | acc | tca | aaa | gga | 1095 |
| 222 | Asn | Asn | Thr | Asp | Ile | Ala | Asp | Val | Ile | Val | Ile | Pro | Thr | Ser | Lys | Gly | |
| 223 | 45 | | | | | 50 | | | | | 55 | | | | | 60 | |
| 225 | gag | aac | aga | tgc | tgg | gtc | cgg | gca | atc | gac | gtc | ggc | tac | atg | tgt | gag | 1143 |
| 226 | Glu | Asn | Arg | Cys | Trp | Val | Arg | Ala | Ile | Asp | Val | Gly | Tyr | Met | Cys | Glu | |
| 227 | | | | | 65 | | | | | 70 | | | | | 75 | | |
| 229 | gac | act | atc | acg | tac | gaa | tgt | cct | aag | ctt | acc | atg | ggc | aat | gat | cca | 1191 |
| | Asp | Thr | Ile | Thr | Tyr | Glu | Cys | Pro | Lys | Leu | Thr | Met | Gly | Asn | Asp | Pro | |
| 231 | | | | 80 | | | | | 85 | | | | | 90 | | | |
| 233 | gag | gat | gtg | gat | tgc | tgg | tgt | gac | aac | caa | gaa | gtc | tac | gtc | caa | tat | 1239 |
| | Glu | Asp | Val | Asp | Cys | Trp | Cys | Asp | Asn | Gln | Glu | Val | Tyr | Val | Gln | Tyr | |
| 235 | | | 95 | | | | | 100 | | | | | 105 | | | | |
| | | | | | | | | | | | | | | | tçc | | 1287 |
| | Gly | | Cys | Thr | Arg | Thr | Arg | His | Ser | Lys | Arg | Ser | Arg | Arg | Ser | Val | |
| 239 | | 110 | | | | | 115 | | | | | 120 | | | | | |
| | _ | - | | | | | | - | | | | | | | gag | - | 1335 |
| | | Val | Gln | Thr | His | | Glu | Ser | Ser | Leu | | Asn | Lys | Lys | Glu | Ala | |
| 243 | | | | | | 130 | | | | | 135 | | | | | 140 | |
| 245 | tgg | ctg | gat | tca | acg | aaa | gcc | aca | cga | tat | ctc | atg | aaa | act | gag | aac | 1383 |
| | Trp | Leu | Asp | Ser | Thr | Lys | Ala | Thr | Arg | Tyr | Leu | Met | Lys | Thr | Glu | Asn | |
| 247 | | | | | 145 | | | | | 150 | | | | | 155 | | |
| 249 | tgg | atc | ata | agg | aat | cct | ggc | tat | gct | ttc | ctg | gcg | gcg | gta | ctt | ggc | 1431 |
| | Trp | Ile | Ile | Arg | Asn | Pro | Gly | Tyr | Ala | Phe | Leu | Ala | Ala | Val | Leu | Gly | |
| 251 | | | | 160 | | | | | 165 | | | | | 170 | | | |
| | | | | | | | | | | | | | | | atc | | 1479 |
| | Trp | Met | | Gly | Ser | Asn | Asn | | Gln | Arg | Val | Val | Phe | Thr | Ile | Leu | |
| 255 | | | 175 | | | | | 180 | | | | | 185 | | | | |
| | | | | | | | | | | | | | | | atg | | 1527 |
| 258 | Leu | Leu | Leu | Val | Ala | Pro | Ala | Tyr | Ser | Phe | Asn | Cys | Leu | Gly | Met | Gly | |

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Input Set : A:\Pto.amc
Output Set: N:\CRF3\04232001\1826115.raw

| | | | | • | | | | | | | | | | | | |
|-----------|--|---|---|--|--|--|---|--|---|--|---|---|--|---|--|---|
|) | 190 |) | | | | 195 | | | | | 200 | 1 | | | | |
| aat | cgt | gac | ttc | ata | gaa | gga | qcc | agt | gga | qec | act | . taa | ata | gac | t.ta | 1575 |
| Asn | Arg | Asp | Phe | Ile | Glu | Gly | Āla | Ser | Ğĺv | Ala | Thr | Tro | Val | Asp | Leu | 1373 |
| 205 | | | | | | | | | • | | | | | | | |
| gtg | ctg | gaa | gga | gat | aqc | tac | tta | aca | ato | | | aac | gac | aaa | cca | 1623 |
| Val | Leu | Glu | Gly | Asp | Ser | Cvs | Leu | Thr | Ile | Met | Ala | Asn | Asp | Lvs | Pro | |
| | | | - | | | • | | | | | | | | | | |
| aca | ttg | gac | qtc | cqc | atq | att | aac | atc | | | aσc | caa | ctt | | gag | 1671 |
| Thr | Leu | Asp | Val | Arq | Met | Ile | Asn | Ile | Glu | Ala | Ser | Gln | Len | Δla | Glu | 10/1 |
| | | - | 240 | , | | | | | | | | 0 | | | O-u | |
| gtc | aga | agt | tac | tgc | tat | cat | qct | tca | atc | act | gac | atc | | acq | ata | 1719 |
| Val | Arg | Ser | Tyr | Cys | Tyr | His | Āla | Ser | Val | Thr | Asp | Ile | Ser | Thr | Val | -,, |
| | | 255 | _ | - | - | | | | | | | | | | , | |
| gct | cgg | tgc | ccc | acg | act | gga | gaa | qcc | cac | aac | qaq | aaq | cga | act | gat. | 1767 |
| Ala | Arg | Cys | Pro | Thr | Thr | Gly | Ğlu | Ála | His | Asn | Glu | Lvs | Ara | Ala | Asp | 1,0, |
| | 270 | | | | | 275 | | | | | 280 | -1- | 9 | | | |
| agt | agc | tat | gtg | tgc | aaa | caa | qqc | ttc | act | gac | cat | aaa | taa | aac | aac | 1815 |
| Ser | Ser | Tyr | Val | Cys | Lys | Gln | Gly | Phe | Thr | Asp | Arq | Glv | Trp | Glv | Asn | 1013 |
| 285 | | | | | 290 | | _ | | | 295 | , | - | • | 1 | | |
| gga | tgt | gga | ctt | ttc | ggg | aag | gga | agc | att | gac | aca | tġt | qça | aaa | ttc | 1863 |
| Gly | Cys | Gly | Leu | Phe | Gly | Lys | Gly | Ser | Ile | Āsp | Thr | Cys | Ala | Lys | Phe | |
| | | | | 305 | | | | | 310 | - | | - | | 315 | | |
| tcc | tgc | acc | agt | aaa | gcg | att | ggg | aga | aca | atc | cag | cca | gaa | aac | atc | 1911 |
| Ser | Cys | Thr | Ser | Lys | Ala | Ile | Gly | Arg | Thr | Ile | Gln | Pro | Ğlu | Asn | Ile | |
| | | | 320 | | | | | 325 | | | | | 330 | | | |
| aaa | tac | gaa | gtt | ggc | att | ttt | gtg | cat | gga | acc | acc | act | tcg | gaa | aac | 1959 |
| Lys | Tyr | Glu | Val | Gly | Ile | Phe | Val | His | Gly | Thr | Thr | Thr | Ser | Ğlu | Asn | |
| | | 335 | | | | | 340 | | | | | 345 | | | | |
| cat | ggg | aat | tat | tca | gcg | caa | gtt | ggg | gcg | tcc | cag | gcg | gca | aag | ttt | 2007 |
| His | Gly | Asn | Tyr | Ser | Ala | Gln | Val | Gly | Ala | Ser | Gln | Ala | Ala | Lys | Phe | |
| | | | | | | 355 | | | | | 360 | | | | | |
| aca | gta | aca | ccc | aat | gct | cct | tcg | ata | acc | ctc | aaa, | ctt | ggt | gac | tac | 2055 |
| Thr | Val | Thr | Pro | Asn | Ala | Pro | Ser | Ile | Thr | Leu | Lys | Leu | Gly | Asp | Tyr | |
| | • | | | | 370 | | | | | 375 | | | | | 380 | |
| gga | gaa | gtc | aca | ctg | gac | tgt | gag | cca | agg | agt | gga | ctg | aac | act | gaa | 2103 |
| GLY | Glu | Val | Thr | Leu | Asp | Cys | Glu | Pro | Arg | Ser | Gly | Leu | Asn | Thr | Glu | |
| | | | | | | | | | 390 | | | | | 395 | | |
| gcg | ttt | tac | gtc | atg | acc | gtg | ggg | tca | aag | tca | ttt | ctg | gtc | cat | agg | 2151 |
| Ala | Phe | Tyr | Val | Met | Thr | Val | Gly | | Lys | Ser | Phe | Leu | Val | His | Arg | |
| | | | | | | | | | | | | | 410 | | | |
| gag | tgg | ttt | cat | gac | ctc | gct | ctc | ccc | tgg | acg | tcc | cct | tcg | agc | aca | 2199 |
| GIU | Trp | | His | Asp | Leu | Ala | | Pro | Trp | Thr | Ser | | Ser | Ser | Thr | |
| | | | | | | | | | | | | | | | | |
| gcg | tgg | aga | aac | aga | gaa | ctc | ctc | atg | gaa | ttt | gaa | gag | gcg | cac | gcc | 2247 |
| Ата | | Arg | Asn | Arg | GLu | | Leu | Met | Glu | Phe | | Glu | Ala | His | Ala | |
| 2 | | | | - 4- 1 | | | | | | | | | | | | |
| aca mb | aaa | cag | TCC | gtt | gtt | gct | ctt | ggg | tca | cag | gaa | gga | ggc | ctc | cat | 2295 |
| TUL | гÀг | GIN | ser | val | val | Ala | Leu | Gly | Ser | | Glu | Gly | Gly | Leu | | |
| 447 | | | | | 450 | | | | | 455 | | | | | 460 | |
| | aat Asn 205 gtg Val aca Thr gtal agt 285 gga Gly tcc aaa Lys cats athr 365 agg Gly gala gag Glu gala aca | aat cgt Asn Arg 205 gtg ctg Val Leu gtc aga Val Arg gct cgg Ala Arg 270 agt agc Ser Ser 285 gga tgt Gly Cys tcc tgc Ser Cys aaa tac Lys Tyr cat ggg His Gly 350 aca gta Thr Val 365 gga gaa Gly Glu gcg ttt Ala Phe gag tgg Glu Trp gcg tgg Ala Trp 430 aca aaa Thr Lys | aat cgt gac Asn Arg Asp 205 gtg ctg gaa Val Leu Glu aca ttg gac Thr Leu Asp gtc aga agt Val Arg Ser 255 gct cgg tgc Ala Arg Cys 270 agt agc tat Ser Ser Tyr 285 gga tgt gga Gly Cys Gly tcc tgc acc Ser Cys Thr aaa tac gaa Lys Tyr Glu 335 cat ggg aat His Gly Asn 350 aca gta aca Thr Val Thr 365 gga gaa gtc Gly Glu Val gcg ttt tac Ala Phe Tyr gag tgg ttt Glu Trp Phe 415 gcg tgg aga Ala Trp Arg 430 aca aaa cag Thr Lys Gln | aat cgt gac tto Asn Arg Asp Phe 205 gtg ctg gaa gga Val Leu Glu Gly aca ttg gac gtc Thr Leu Asp Val 240 gtc aga agt tac Val Arg Ser Tyr 255 gct cgg tgc ccc Ala Arg Cys Pro 270 agt agc tat gtg Ser Ser Tyr Val 285 gga tgt gga ctt Gly Cys Gly Leu tcc tgc acc agt Ser Cys Thr Ser 320 aaa tac gaa gtt Lys Tyr Glu Val 335 cat ggg aat tat His Gly Asn Tyr 350 aca gta aca ccc Thr Val Thr Pro 365 gga gaa gtc aca Gly Glu Val Thr Gry Glu Val Thr Pro 365 gga gaa gtc aca Gly Glu Val Thr Gry Glu Val Thr Pro 365 gga gaa gtc aca Gly Glu Val Thr Gry Glu Trp Phe His 415 gcg ttgg aga acc Ala Trp Arg Asn 430 aca aaa cag tcc Thr Lys Gln Ser | aat cgt gac ttc ata Asn Arg Asp Phe Ile 205 gtg ctg gaa gga gat gtg ctg gac gtc cgc Thr Leu Asp Val Arg 240 gtc aga agt tac tgc Val Arg Ser Tyr Cys Cys Tyr Cys Cys Tyr Cys Cys Tyr <t< td=""><td>aat cgt gac ttc ata gaa Asn Arg Asp Phe Ile Glu gtg ctg gaa gga gat agc Val Leu Glu Gly Asp Ser Thr Leu Asp Val Arg Met 240 gtc aga atc tgc atg Thr Leu Asp Val Arg Met 240 gtc agc atc tgc atg gtc aga agt tac tgc tat Val Arg Ser Tyr Cys Tyr Cys Tyr Lys Lys 290 gg gg ctt ttc gg aaa gc gg ctt ttc gg aaa gc gg aaa gc gg att ttc gg gg att ttc gg</td><td>aat cgt gac ttc ata gaa gga Asn Arg Asp Phe Ile Glu Gly gtg ctg gaa gga gat agc tgc Val Leu Glu Gly Asp Ser Cys aca ttg gac gtc cgc atg att Thr Leu Asp Val Arg Met Ile yal Arg gac ctc cgc atg att yal Arg Arg Arg Met Ile Att Ile Att</td><td>aat cgt gac ttc ata gaa gga gcc Asn Arg Asp Phe Ile Glu Gly Ala 205 210 gtg ctg gaa gga gat agc tgc ttg Val Leu Glu Gly Asp Ser Cys Leu 225 aca ttg gac gtc cgc atg att aac Thr Leu Asp Val Arg Met Ile Asn 240 gtc aga agt tac tgc tat cat gct Val Arg Ser Tyr Cys Tyr His Ala 255 260 gct cgg tgc ccc acg act gga gaa Ala Arg Cys Pro Thr Thr Gly Glu 270 275 agt agc tat gtg tgc aaa caa ggc Ser Ser Tyr Val Cys Lys Gln Gly 285 290 gga tgt gga ctt ttc ggg aag gaa Gly Cys Gly Leu Phe Gly Lys Gly 305 tcc tgc acc agt aaa gcg att ggg Gly Cys Thr Ser Lys Ala Ile Gly Jay Ser Cys Thr Ser Lys Ala Ile Gly Jay Gaa tac gaa gtt ggc att ttg Gly Asn Tyr Ser Ala Gln Val 335 aca gga at tat tca gcg caa gtt His Gly Asn Tyr Ser Ala Gln Val 350 aca gga gaa gtc acc gg ggc tgg gaa gac gcc ct ggg ggg Gly Glu Val Thr Leu Asp Cys Glu</td><td>aat cgt gac ttc ata gaa gga gcc agt 205 gaa gga ggat gct cly Ala Ser 205 gaa gga gat agc ttgc ttg aca 205 ggt ctg gac gtc ctg ttg ttg aca Val Leu Glu Gly Asp At aca ac Thr Leu Asp Val Arg Met Ile aca ac Thr Leu Asp Val Arg Met Ile Asn Ile Thr Leu Asp Val Arg At aca aca gct tca Thr Leu Asp Tr Thr Gly Gly Leu Asp aca aca gg gac tca gg gac gg ttca tca gg</td><td>aat cgt gac ttc ata gaa gga ggc agt ggg Asn Arg Asp Phe Ile Glu Gly Ala Ser Gly 210 gtg ctg gaa gga ggat agc tgc ttg aca atc Val Leu Glu Gly Asp Ser Cys Leu Thr Ile 225 aca ttg gac gtc cgc atg att aac atc gaa Thr Leu Asp Val Arg Met Ile Asn Ile Glu 240 gtc aga agt tac tgc tat cat gct tca gtc Val Arg Ser Tyr Cys Tyr His Ala Ser Val Arg Ser Tyr Cys Tyr His Ala Ser Val 255 gct cgg tgc ccc acg act gga gaa gcc cac Ala Arg Cys Pro Thr Thr Gly Glu Ala His 270 agt agc tat gtg tgc aaa caa ggc ttc act Ser Ser Tyr Val Cys Lys Gln Gly Phe Thr 285 gga tgg caa ag gga agg agg acc act gga tgg tgg aaa agg gga acc Ser Cys Thr Ser Lys Ala Ile Gly Arg Thr 320 aaa tac gaa gtt ggc aaa ag gga acc Ser Cys Thr Ser Lys Ala Ile Gly Arg Thr 320 aaa tac gaa gtt ggc att ttg ggg aga acc Ser Cys Thr Ser Lys Ala Ile Gly Arg Thr 320 aaa tac gaa gtt ggc att ttg gg acg acc Ser Cys Thr Ser Lys Ala Ile Gly Arg Thr 320 aaa tac gaa gtt ggc att ttg gg acg acc Ser Cys Thr Ser Lys Ala Ile Gly Arg Thr 320 aaa tac gaa gtt ggc att ttg gg acg acc Ser Cys Thr Ser Lys Ala Ile Gly Arg Thr 320 aaa tac gaa gtt ggc att ttg gg aca gc gg acc Gaa gt ggg acc acc Ser Cys Thr Ser Lys Ala Gln Val Gly Ala 350 aca gta acc ccc act gcg aca gtt ggg acc acc gga ga acc gc gc ga ga acc acc</td><td>aat cgt gac ttc ata gaa gga gcc agt gga gcc agt gga gga gcc agt gga gac gaa gga gac aca atc atg 215 gtg ctg gaa gga gga gga ggc gaa gga gga gga gga ggc aca atc atg 215 aca atc atg 215 val Leu Glu Gly Asp Ser Cys Leu Thr Ile Glu Ala 220 225 230 aca ttg gac gtc cgc atg att aac atc gga gga gga ggt aga ggc aac aga ggt aga gga gga gga gga gga gga 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Gly Lys Gly Ser Ile Asp Thr Cys 305 310 tcc tgc acc agt aca gcg att gga aca atc cac act Lys Tyr Glu Val Gly Ile Phe Val His Gly Thr Thr 11e Gly Apr Act ggg act tat gac aca atg 320</td><td>aat cgt gac ttc ata gaa gga gcc agt gga gcc act tgg gtg Asn Arg Asp Phe Ile Glu Gly Ala Ser Gly Ala Thr Trp Val 205 210 gtg ctg gaa gga gga gat agc tgc ttg aca atc atg gca acc acc gtg ctg gac gga gga gat agc tgc ttg aca atc atg gca acc val Leu Glu Gly Asp Ser Cys Leu Thr Ile Met Ala Asn Asp 230 aca ttg gac gtc cgc atg at acc acc aca ttg gac gtc cgc atg at acc acc gtc aga ggt cac acc 240 240 240 245 240 245 240 245 240 245 240 245 240 245 240 245 240 245 240 246 240 245 240 245 240 246 241 247 242 240 242 240 242 240 242 240 242 242 242 242</td><td>aat cgt gac ttc at gaa gga ggc agt gga gcc act tgg gtg gac Aan Arg Asp Phe Ile Glu Gly Ala Ser Gly Ala Thr Trp Val Asp 205 205 216 215 216 215 215 230 235 230 235 230 235 230 235 230 235 235 230 225 230 225 230 225 226 225 225 226 225 226 225 226 226 226 227 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Ser Cys Leu 225 aca ttg gac gtc cgc atg att aac Thr Leu Asp Val Arg Met Ile Asn 240 gtc aga agt tac tgc tat cat gct Val Arg Ser Tyr Cys Tyr His Ala 255 260 gct cgg tgc ccc acg act gga gaa Ala Arg Cys Pro Thr Thr Gly Glu 270 275 agt agc tat gtg tgc aaa caa ggc Ser Ser Tyr Val Cys Lys Gln Gly 285 290 gga tgt gga ctt ttc ggg aag gaa Gly Cys Gly Leu Phe Gly Lys Gly 305 tcc tgc acc agt aaa gcg att ggg Gly Cys Thr Ser Lys Ala Ile Gly Jay Ser Cys Thr Ser Lys Ala Ile Gly Jay Gaa tac gaa gtt ggc att ttg Gly Asn Tyr Ser Ala Gln Val 335 aca gga at tat tca gcg caa gtt His Gly Asn Tyr Ser Ala Gln Val 350 aca gga gaa gtc acc gg ggc tgg gaa gac gcc ct ggg ggg Gly Glu Val Thr Leu Asp Cys Glu | aat cgt gac ttc ata gaa gga gcc agt 205 gaa gga ggat gct cly Ala Ser 205 gaa gga gat agc ttgc ttg aca 205 ggt ctg gac gtc ctg ttg ttg aca Val Leu Glu Gly Asp At aca ac Thr Leu Asp Val Arg Met Ile aca ac Thr Leu Asp Val Arg Met Ile Asn Ile Thr Leu Asp Val Arg At aca aca gct tca Thr Leu Asp Tr Thr Gly Gly Leu Asp aca aca gg gac tca gg gac gg ttca tca gg | aat cgt gac ttc ata gaa gga ggc agt ggg Asn Arg Asp Phe Ile Glu Gly Ala Ser Gly 210 gtg ctg gaa gga ggat agc tgc ttg aca atc Val Leu Glu Gly Asp Ser Cys Leu Thr Ile 225 aca ttg gac gtc cgc atg att aac atc gaa Thr Leu Asp Val Arg Met Ile Asn Ile Glu 240 gtc aga agt tac tgc tat cat gct tca gtc Val Arg Ser Tyr Cys Tyr His Ala Ser Val Arg Ser Tyr Cys Tyr His Ala Ser Val 255 gct cgg tgc ccc acg act gga gaa gcc cac Ala Arg Cys Pro Thr Thr Gly Glu Ala His 270 agt agc tat gtg tgc aaa caa ggc ttc act Ser Ser Tyr Val Cys Lys Gln Gly Phe Thr 285 gga tgg caa ag gga agg agg acc act gga tgg tgg aaa agg gga acc Ser Cys Thr Ser Lys Ala Ile Gly Arg Thr 320 aaa tac gaa gtt ggc aaa ag gga acc Ser Cys Thr Ser Lys Ala Ile Gly Arg Thr 320 aaa tac gaa gtt ggc att ttg ggg aga acc Ser Cys Thr Ser Lys Ala Ile Gly Arg Thr 320 aaa tac gaa gtt ggc att ttg gg acg acc Ser Cys Thr Ser Lys Ala Ile Gly Arg Thr 320 aaa tac gaa gtt ggc att ttg gg acg acc Ser Cys Thr Ser Lys Ala 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Leu Glu Gly Asp Ser Cys Leu Thr Ile Met Ala Asn 225 aca ttg gac gtc cgc atg at tac cgc atg act tac gac acc act tg gac gtc cgc atg atl aca atc gaa gct acc acg gtc aga agt tac tgc tat cat gct tca gtc act gac acc 240 gtc aga agt tac tgc tat cat gct tca gtc act gac acc 241 gtc aga agt tac tgc tat cat gct tca gca acc gac 265 gct cgg tgc ccc acg act gga gaa gcc caa ac gac 260 gtc 275 280 gtc 270 275 agt agc tat gtg tgc aca aca ggc ttc act gac cgt ggg gar tag tgt gga ctt ttc ggg aag gaa gc atc gac act gg gar tag tgt gga ctt ttc ggg aag aga acc atc gac gt gga tgt gga act ttc ggg aag gaa acc acc act gd Gly Cys Gly Leu Phe Gly Lys Gly Ser Ile Asp Thr Cys 305 310 tcc tgc acc agt aca gcg att gga aca atc cac act Lys Tyr Glu Val Gly Ile Phe Val His Gly Thr Thr 11e Gly Apr Act ggg act tat gac aca atg 320 | aat cgt gac ttc ata gaa gga gcc agt gga gcc act tgg gtg Asn Arg Asp Phe Ile Glu Gly Ala Ser Gly Ala Thr Trp Val 205 210 gtg ctg gaa gga gga gat agc tgc ttg aca atc atg gca acc acc gtg ctg gac gga 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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/826,115

DATE: 04/23/2001 TIME: 15:06:09

Input Set : A:\Pto.amc
Output Set: N:\CRF3\04232001\I826115.raw

 $\hbox{L:} 11 \hbox{ M:} 270 \hbox{ C: Current Application Number differs, Replaced Current Application No}\\$

L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date